CLAIMS

1. A bag for a circuit of an installation for treatment of a biological liquid by chromatography, characterized in that it comprises:

- a plurality of connectors (11A-11R) and a network (12) for conveying liquid between said connectors (11A-11R), said conveying network (12) being formed by a plurality of conduits (13A-13Q); and

- two flexible films (65, 66) fastened to each other, said conduits (13A-13Q) being formed between the two said flexible films (65, 66);

wherein a first conduit (13J) is provided with a first section (13J1), which has a first end (13J2) and a second end (13J3) which is an opposite end to the first end (13J1);

wherein a second conduit (13K) is provided with a first section (13K1), which has a first end (13K2) and a second end (13K3) which is an opposite end to the first end (13K2), the first section (13J1) of the first conduit (13J) and the first section (13K1) of the second conduit (13K) being opposite;

wherein a third conduit (13L) has a first end (13L1) and a second end (13L2) which is an opposite end to the first end (13L1), which third conduit (13L) links said respective first ends (13J2, 13K2) of said respective first sections (13J1, 13K1) of said first conduit (13J) and said second conduit (13K) respectively by its first end (13L1) and its second end (13L2);

wherein a fourth conduit (13M) has a first end (13M1) and a second end (13M2) which is an opposite end to the first end (13M1), which fourth conduit (13M) links said respective second ends (13J3, 13K3) of said respective first sections (13J1, 13K1) of said first conduit (13J) and said second conduit (13K) respectively by its first end (13M1) and its second end (13M2);

wherein a fifth conduit (13N) has a first end (13N1) and a second end (13N2) which is an opposite end to the first end (13N1), said fifth conduit (13N) linking both the second end (13J3) of said first section (13J1) of said first conduit (13J) and said first end (13M1) of said fourth conduit (13M) by its first end (13N1), and said fifth conduit (13N) linking both said first end (13K2) of said

first section (13K1) of said second conduit (13K) and said second end (13L2) of said third conduit (13L) by its second end (13N2); and

said first conduit (13J) being connected to a chromatography column connector (11L) by said first end (13J2) of its first section (13J1), and said second conduit (13K) being connected to a chromatography column connector (11M) by said second end (13K3) of its first section (13K1);

whereby the bag is configured such that the liquid to treat passes into said chromatography column via one of said first (13J) and second (13K), conduits, exits via the other of said first (13J) and second (13K) conduits, and the liquid to treat may avoid said chromatography column by passing into said fifth conduit (13N).

2. A bag according to claim 1, characterized in that it comprises a sixth conduit (13A) between a feed pump connector (11A) and a waste container connector (11B).

3. A bag according to claim 2, characterized in that it comprises a seventh conduit (13D) which extends from a bubble trap connector (11D) until it enters said sixth conduit (13A).

4. A bag according to claim 3, characterized in that it comprises an eighth conduit (13C) which extends from a feed pump connector (11C) until it enters said seventh conduit (13D).

5. A bag according to any one of claims 1 to 4, characterized in that it comprises at least a ninth conduit (13E) which extends between a bubble trap connector (11E) and an instrumentation connector (11H).

6. A bag according to claim 5, characterized in that it comprises at least a tenth conduit (13H, 13I) which extends from a filter connector (11I, 11J) until it enters said ninth conduit (13E).

7. A bag according to any one of claims 1 to 6, characterized in that it comprises an eleventh conduit (13F) which extends between a bubble trap connector (11G) and an air connector (11F).

8. A bag according to any one of claims 1 to 7, characterized in that said first end (13K2) of said first section (13K1) of said second conduit (13K) is connected to at least one fraction container connector (11N-Q).

9. A bag according to claim 8, characterized in that it comprises a twelfth conduit (13B) which extends from a waste container connector (11R) until it enters said second conduit (13K).

10. A bag according to any one of claims 1 to 9, characterized in that said second end (13J3) of said first section (13J1) of said first conduit (13J) is connected to an instrumentation connector (11K).

11. A device for an installation for biological liquid treatment by chromatography, characterized in that it comprises a circuit (8) comprising:

- a bag (10) provided with a plurality of connectors (11A-11R) and a network (12) for conveying liquid between said connectors (11A-11R), said conveying network (12) being formed by a plurality of conduits (13A-13Q), the bag (10) further comprising two flexible films (65, 66) fastened to each other, said conduits (13A-13Q) being formed between said two flexible films (65, 66);
- a press (9) comprising a first shell (16) and a second shell (17) mounted on said first shell (16), said first shell (16) and second shell (17) cooperating with said bag (10) to form the conduits (13A-13B) of said conveying network (12) between said flexible films (65, 66), by clamping said bag (10) between said first shell (16) and said second shell (17); and
- a plurality of valves (125A-W);

wherein a first conduit (13J) is provided with a first section (13J1), which has a first end (13J2) and a second end (13J3) which is an opposite end to the first end (13J1);

wherein a second conduit (13K) is provided with a first section (13K1), which has a first end (13K2) and a second end (13K3) which is an opposite end to the first end (13K2), the first section (13J1) of the first conduit (13J) and the first section (13K1) of the second conduit (13K) being opposite;

wherein a third conduit (13L) has a first end (13L1) and a second end (13L2) which is an opposite end to the first end (13L1), which third conduit (13L) links said respective first ends (13J2, 13K2) of said respective first sections (13J1, 13K1) of said first conduit (13J) and said second conduit (13K) respectively by its first end (13L1) and its second end (13L2);

wherein a fourth conduit (13M) has a first end (13M1) and a second end (13M2) which is an opposite end to the first end (13M1), which fourth conduit (13M) links said respective second ends (13J3, 13K3) of said respective first sections (13J1, 13K1) of said first conduit (13J) and said second conduit (13K) respectively by its first end (13M1) and its second end (13M2);

wherein a fifth conduit (13N) has a first end (13N1) and a second end (13N2) which is an opposite end to the first end (13N1), said fifth conduit (13N) linking both said second end (13J3) of said first section (13J1) of said first conduit (13J) and said first end (13M1) of said fourth conduit (13M) by its first end (13N1), and said fifth conduit (13N) linking both said first end (13K2) of said first section (13K1) of said second conduit (13K) and said second end (13L2) of said third conduit (13L) by its second end (13N2); and

said first conduit (13J) being connected to a chromatography column connector (11L) by said first end (13J2) of its first section (13J1), and said second conduit (13K) being connected to a chromatography column connector (11M) by said second end (13K3) of its first section (13K1); and

wherein a first valve (125L) is situated on said first section (13J1) of said first conduit (13J), a second valve (125N) is situated on said first section (13K1) of said second conduit (13K), a third valve (125P) is situated on said third conduit (13L), a fourth valve (125R) is situated on said fourth conduit (13M), and a fifth valve (125Q) is situated on said fifth conduit (13N).

12. A device according to claim 11, characterized in that it comprises a sixth valve (125M) situated on said first conduit (13J) between said first end (13J2) of its first section (13J1) and said chromatography column connector (11L).

13. A device according to one of claims 11 and 12, characterized in that it comprises a seventh valve (125O) situated on said second conduit (13K) between said second end (13K3) of its first section (13K1) and said chromatography column connector (11M).

14. A device according to any one of claims 11 to 13, characterized in that the bag (10) comprises a sixth conduit (13A) between a feed pump connector (11A) and a waste container connector (11B), and the device

comprises at least an eighth valve (125A, 125B) situated on said sixth conduit (13A).

15. A device according to claim 14, characterized in that said bag (10) comprises a seventh conduit (13D) which extends from a bubble trap connector (11D) until it enters said sixth conduit (13A), and the device comprises a ninth valve (125D) situated on said seventh conduit (13D).

16. A device according to claim 15, characterized in that said bag (10) comprises an eighth conduit (13C) which extends from a feed pump connector (11C) until it enters said seventh conduit (13D), and the device comprises a tenth valve (125C) situated on said eighth conduit (13C).

17. A device according to any one of claims 11 to 13, characterized in that said bag (10) comprises a ninth conduit (13E) which extends between a bubble trap connector (11E) and an instrumentation connector (11H), and the device comprises at least an eleventh valve (125E, 125H, 125I) situated on said ninth conduit (13E).

18. A device according to claim 17, characterized in that said bag (10) comprises at least a tenth conduit (13H, 13I) which extends from a filter connector (11I, 11J) until it enters said ninth conduit (13E), and the device comprises at least a twelfth valve (125J, 125K) situated on said at least a tenth conduit (13H, 13I).

19. A device according to any one of claims 11 to 18, characterized in that said bag (10) comprises an eleventh conduit (13F) which extends between a bubble trap connector (11G) and an air connector (11F), and the device comprises at least a thirteenth valve (125F) situated on said eleventh conduit (13F).

20. A device according to any one of claims 11 to 19, characterized in that said first end (13K2) of said first section (13K1) of said second conduit (13K) is connected to at least one fraction container connector (11N-Q), and the device comprises a fourteenth valve (125W) situated on said second conduit (13K).

21. A device according to claim 10, characterized in that said bag (10) comprises a twelfth conduit (13B) which extends from a waste container

connector (11R) until it enters said second conduit (13K), and the device comprises a fifteenth valve (125V) situated on said twelfth conduit (13B).

22. A device according to any one of claims 11 to 21, characterized in that it comprises a pressure sensor (126) situated on said ninth conduit (13E).